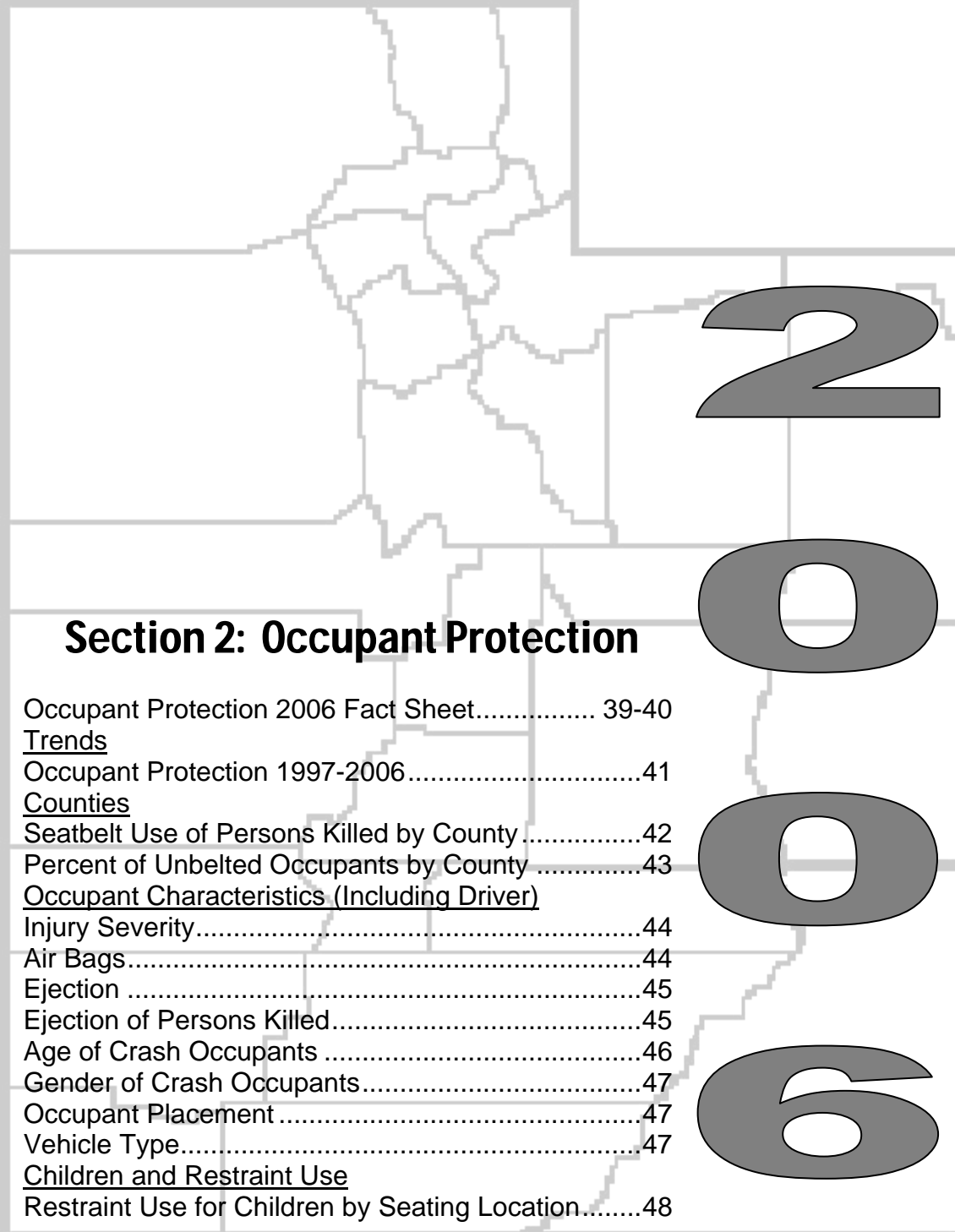


Occupant Protection

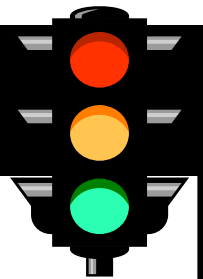


2006

Section 2: Occupant Protection

Occupant Protection 2006 Fact Sheet.....	39-40
<u>Trends</u>	
Occupant Protection 1997-2006.....	41
<u>Counties</u>	
Seatbelt Use of Persons Killed by County	42
Percent of Unbelted Occupants by County	43
<u>Occupant Characteristics (Including Driver)</u>	
Injury Severity.....	44
Air Bags.....	44
Ejection	45
Ejection of Persons Killed.....	45
Age of Crash Occupants	46
Gender of Crash Occupants.....	47
Occupant Placement	47
Vehicle Type.....	47
<u>Children and Restraint Use</u>	
Restraint Use for Children by Seating Location.....	48

OCCUPANT PROTECTION

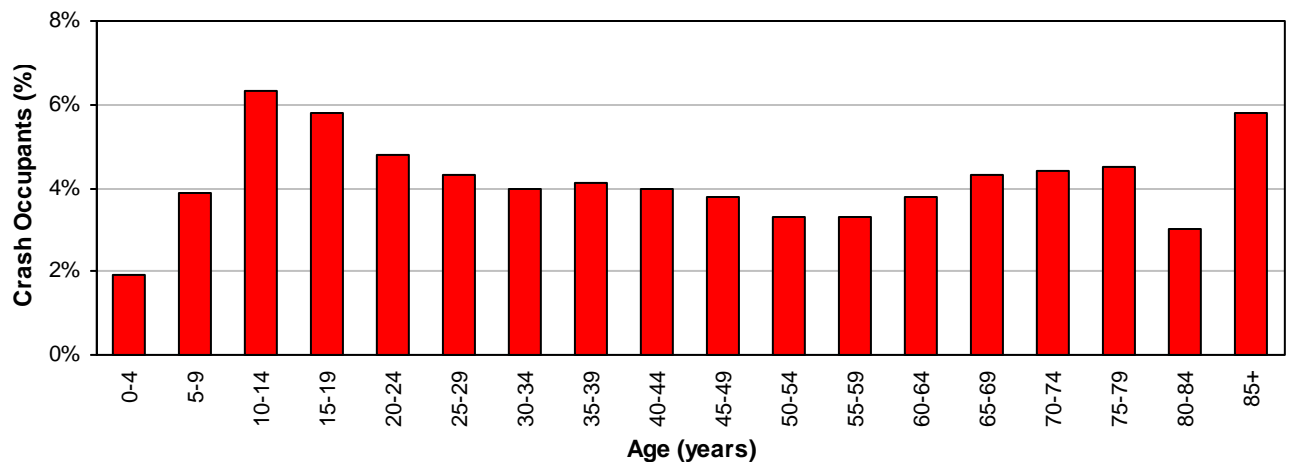


Wearing a seatbelt is one of the best ways to decrease injuries and deaths in motor vehicle crashes.

Did you know in 2006:

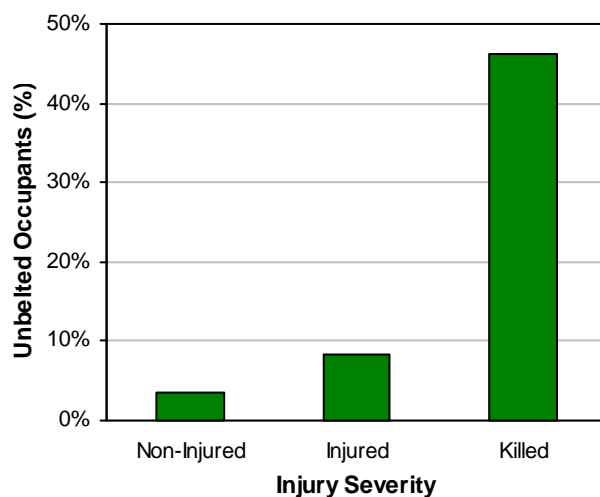
- Unbelted crash occupants were 19 times more likely to die in a crash than belted crash occupants.
- An estimated 147 lives were saved because of seatbelt use. (National Highway Traffic Safety Administration)
- An unbelted crash occupant was killed in Utah every four days.

Unbelted Crash Occupants by Age (Utah 2006)



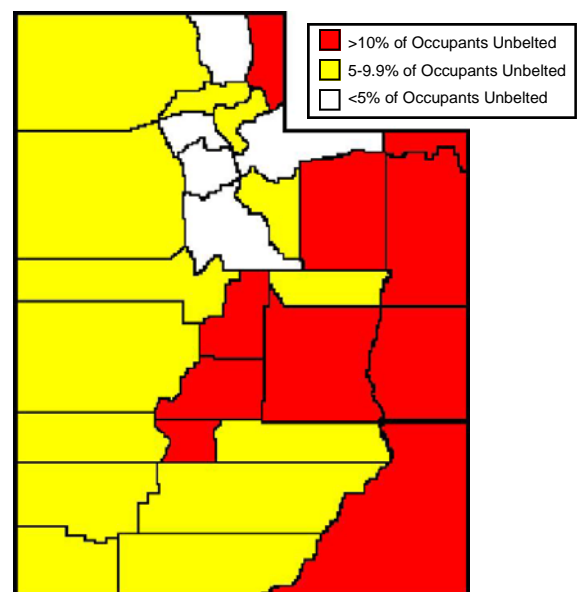
- The highest percentage of unbelted crash occupants were aged 10-19 years (6%) and 85+ years (6%).

Injury Severity of Unbelted Occupants (Utah 2006)



- 46% of crash occupants killed in a crash were unbelted.
- The majority of persons who survived a crash reported wearing a seatbelt.

Percent of Unbelted Occupants in Total Crashes by County (Utah 2006)

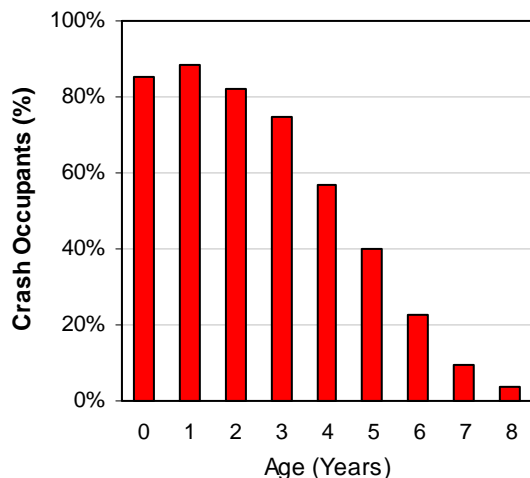


- Crash occupants in rural counties were twice as likely to be unbelted than urban occupants.

OCCUPANT PROTECTION

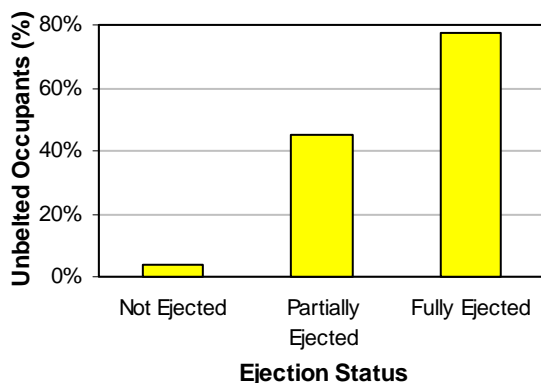


Percent of Children Aged 0-8 Years in Crashes Using Child Safety Seats (Utah 2006)



- The older the child the less likely they were using a child safety seat.
- While 86% of children 0-1 years were in a child safety seat at the time of the crash, only 57% of 4-year-olds, 23% of 6-year-olds, and 4% of 8-year-olds were in a child safety seat.
- The decrease in child safety seat use for children aged 4-8 years is concerning and indicates that children are moving to adult-sized seatbelts too early.

Ejection of Unbelted Crash Occupants (Utah 2006)



- 78% of crash occupants fully ejected from a motor vehicle were unbelted.
- Unbelted occupants were 80 times more likely to be fully ejected than belted occupants.

Child Safety Seat Recommendations:

- Infants should be placed in a rear-facing safety seat until they are at least 20 pounds AND 1 year of age.
- NEVER place a rear-facing child safety seat in the front seat of a vehicle with a passenger side air bag.
- Children over 1 year of age weighing 20-40 pounds should ride in forward facing child safety seats.
- Older children (approximately 4-8 years of age) should ride in belt-positioning booster seats until they are 80-100 pounds or 4'9" tall and can use an adult-size lap and shoulder belt system.
- The safest place for any child aged 12 and under is in the back seat of the vehicle.

Seatbelt Recommendations:

- Always use both the lap and shoulder belt. When worn properly, the shoulder belt should fit across the collar bone and the lap belt should fit low over the hips.
- Never place the shoulder strap under your arm or behind your back.
- Use belt-positioning booster seats for children who have outgrown their toddler safety seat (at about 4 years of age and 40 pounds). Booster seats help position an adult-size seatbelt for a safer fit on children.

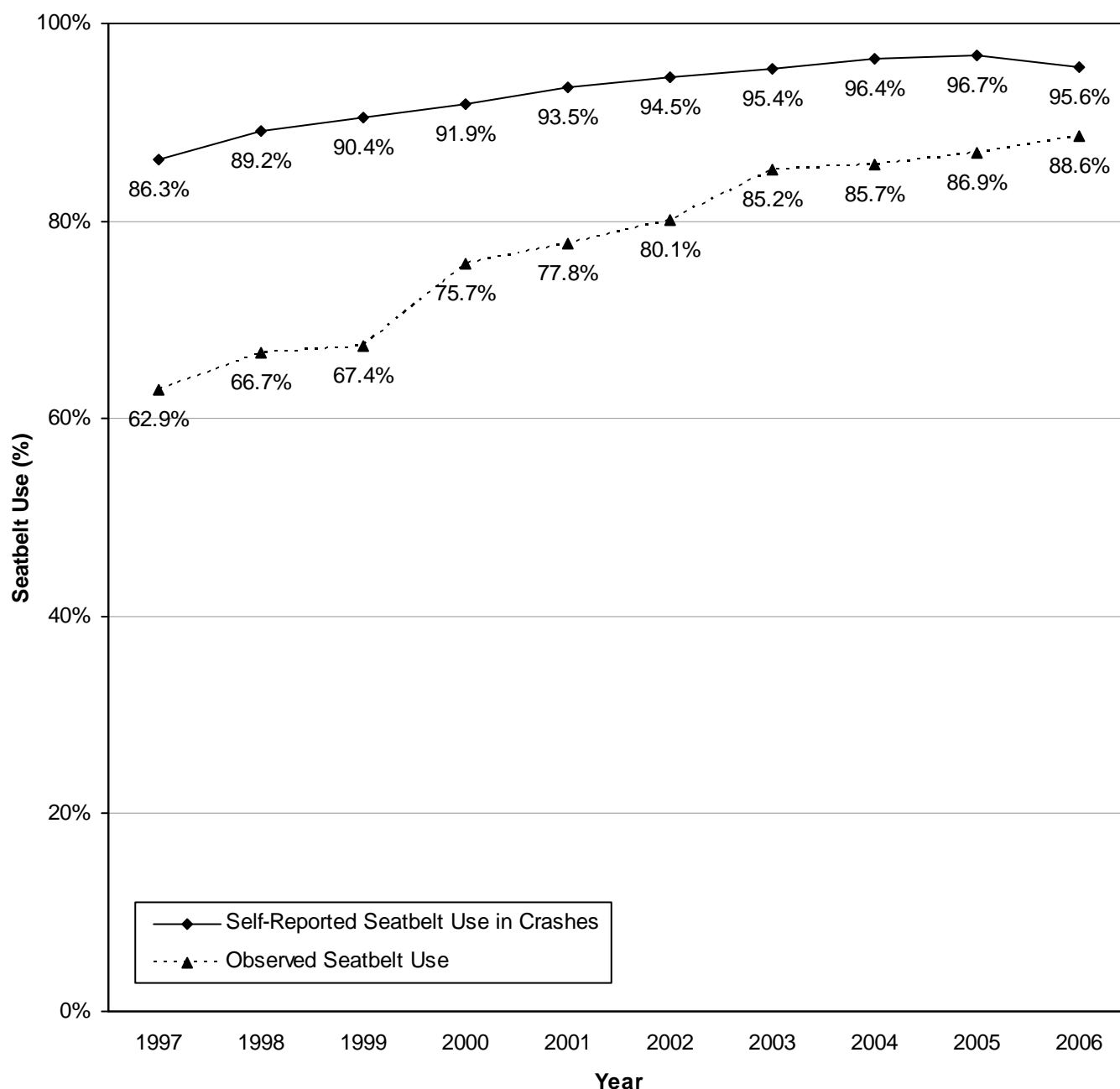
Safety Restraint Laws (Effective May 2008):

- Utah law requires all motor vehicle occupants to wear a seatbelt when traveling in a motor vehicle. This is a secondary enforcement law which means an adult may be issued a citation and subject to a \$45 fine only when the police officer has stopped the vehicle for another reason.
- The law is a primary enforcement law for drivers and passengers under age 19 years.
 - ⇒ Children age 7 years and under must ride in an approved child safety seat; and
 - ⇒ Children aged 8 to 18 years must ride in an appropriate child restraint or seatbelt.
 - ⇒ There are a few exemptions to the law. Contact the Highway Safety Office for more information.

This primary enforcement law means a person may be issued a citation and subject to a fine of not more than \$45 if a law enforcement officer notices children are not properly restrained.

Trends

Seatbelt Use of Occupants In Crashes and Observational Studies (Utah 1997-2006)



- Historically, there have been differences between self-reported seatbelt use of people in crashes and seatbelt use observed in observational studies. The difference may be due to over-reporting by the people in crashes.
- The 10-year trend shows an increase of seatbelt use in both crashes and observational studies.
- In 2006, the observational seatbelt use increased to 88.6% from 86.9% in 2005. This was the highest observed seatbelt use ever in Utah.
- The 2006 self-reported seatbelt use of people in crashes decreased to 95.6% from 96.7% in 2005.

Counties

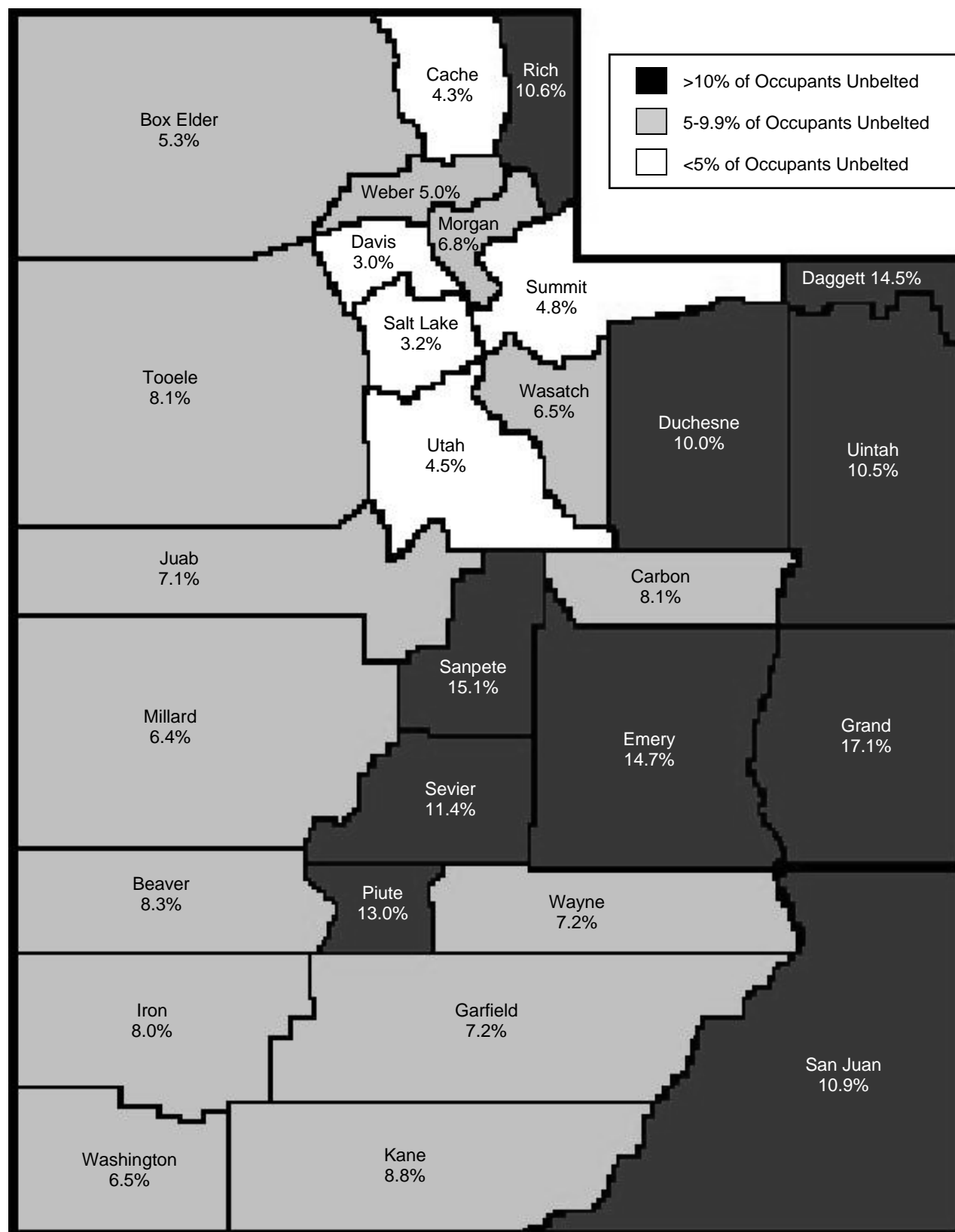
Seatbelt Use of Persons by County (Utah 2006)

County	Persons											
	Non-Injured			Injured			Killed			Total Persons		
	Belted	Unbelted	%	Belted	Unbelted	%	Belted	Unbelted	%	Belted	Unbelted	%
	#	#	%	#	#	%	#	#	%	#	#	%
Grand	177	32	15.3%	81	18	18.2%	3	4	57.1%	261	54	17.1%
Sanpete	353	43	10.9%	98	37	27.4%	3	1	25.0%	454	81	15.1%
Emery	349	46	11.6%	114	32	21.9%	2	2	50.0%	465	80	14.7%
Daggett	57	10	14.9%	8	1	11.1%	0	0	0.0%	65	11	14.5%
Piute	28	1	3.4%	12	5	29.4%	0	0	0.0%	40	6	13.0%
Sevier	466	35	7.0%	145	42	22.5%	3	2	40.0%	614	79	11.4%
San Juan	235	10	4.1%	48	21	30.4%	2	4	66.7%	285	35	10.9%
Rich	99	5	4.8%	18	8	30.8%	1	1	50.0%	118	14	10.6%
Uintah	852	77	8.3%	164	38	18.8%	1	4	80.0%	1,017	119	10.5%
Duchesne	494	38	7.1%	100	28	21.9%	3	0	0.0%	597	66	10.0%
Kane	277	16	5.5%	41	13	24.1%	5	2	28.6%	323	31	8.8%
Beaver	272	18	6.2%	57	12	17.4%	1	0	0.0%	330	30	8.3%
Tooele	1,053	52	4.7%	297	62	17.3%	6	5	45.5%	1,356	119	8.1%
Carbon	560	39	6.5%	124	18	12.7%	0	3	100.0%	684	60	8.1%
Iron	1,466	95	6.1%	315	57	15.3%	3	3	50.0%	1,784	155	8.0%
Wayne	51	1	1.9%	13	4	23.5%	0	0	0.0%	64	5	7.2%
Garfield	186	14	7.0%	46	4	8.0%	1	0	0.0%	233	18	7.2%
Juab	514	26	4.8%	104	20	16.1%	1	1	50.0%	619	47	7.1%
Morgan	146	9	5.8%	31	4	11.4%	0	0	0.0%	177	13	6.8%
Washington	4,876	291	5.6%	985	114	10.4%	14	5	26.3%	5,875	410	6.5%
Wasatch	837	51	5.7%	155	17	9.9%	4	1	20.0%	996	69	6.5%
Millard	560	20	3.4%	157	28	15.1%	4	1	20.0%	721	49	6.4%
Box Elder	1,068	27	2.5%	297	47	13.7%	6	2	25.0%	1,371	76	5.3%
Weber	8,647	372	4.1%	2,115	183	8.0%	5	7	58.3%	10,767	562	5.0%
Summit	1,627	67	4.0%	285	27	8.7%	2	3	60.0%	1,914	97	4.8%
Utah	14,124	502	3.4%	3,037	291	8.7%	7	12	63.2%	17,168	805	4.5%
Cache	3,572	128	3.5%	607	60	9.0%	6	1	14.3%	4,185	189	4.3%
Salt Lake	42,639	1,158	2.6%	8,483	522	5.8%	18	20	52.6%	51,140	1,700	3.2%
Davis	10,201	263	2.5%	2,056	117	5.4%	1	4	80.0%	12,258	384	3.0%
Statewide	95,786	3,446	3.5%	19,993	1,830	8.4%	102	88	46.3%	115,881	5,364	4.4%

- Seatbelt use is reported for occupants in a passenger car, light truck, van, SUV, or large truck. Occupants are considered "belted" if they were reported as using a shoulder/lap belt, lap belt, or a child safety seat at the scene of the crash.
- Seatbelt use is self-reported by crash occupants in the majority of crashes and may be inflated due to over-reporting by the people in crashes.
- The officer determines seatbelt use in the event of a fatal or severe injury crash.
- The majority of persons in crashes reported wearing a seatbelt (95.6%).
- Grand (17.1%), Sanpete (15.1%), and Emery (14.7%) counties had the highest percentage of occupants that were unbelted.
- Nearly half (46.3%) of vehicle occupants killed in crashes in Utah were unbelted.
- Carbon (100%), Davis (80%), and Uintah (80%) counties had the highest percentage of occupant deaths that were unbelted.

Counties

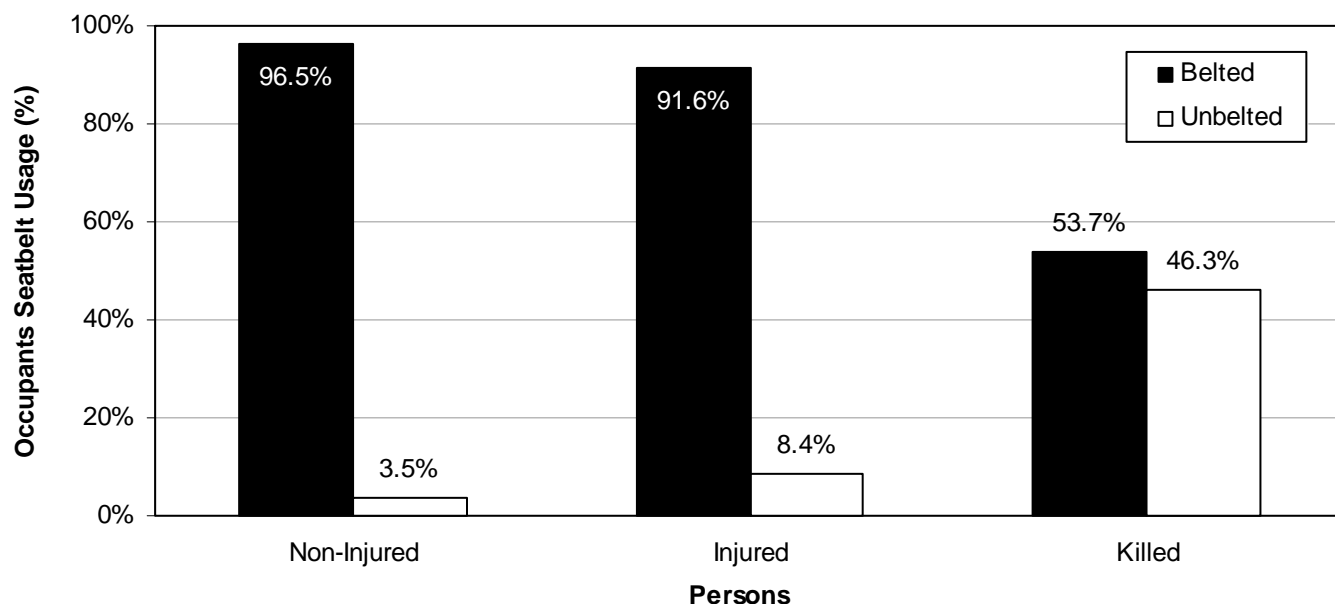
Percent of Unbelted Occupants in Total Crashes by County (Utah 2006)



Occupant Characteristics (Including Driver)

Seatbelt Use by Injury Severity (Utah 2006)

Persons								
	Non-Injured		Injured		Killed		Total Persons	
Seatbelt Use	#	%	#	%	#	%	#	%
Belted	95,786	96.5%	19,993	91.6%	102	53.7%	115,881	95.6%
Unbelted	3,446	3.5%	1,830	8.4%	88	46.3%	5,364	4.4%
Total	99,232	100.0%	21,823	100.0%	190	100.0%	121,245	100.0%



- Over 95% of persons who survived a crash reported wearing a seatbelt.
- In contrast, only half (53.7%) of the persons killed in a crash were belted.
- Unbelted crash occupants were 19 times more likely to be killed than belted crash occupants.

Air Bags and Seatbelt Use (Utah 2006)

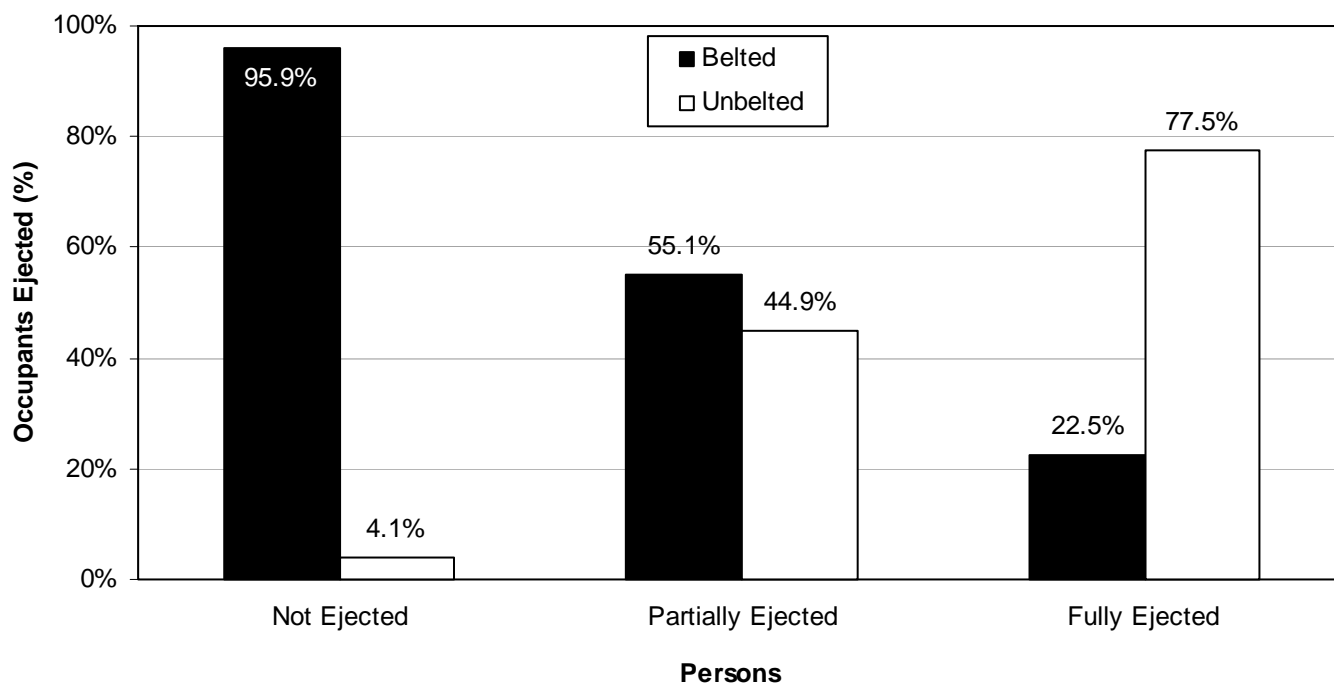
Persons (Whose Airbag Deployed)									
		Non-Injured		Injured		Killed		Total Persons	
Occupant Placement	Seatbelt Use	#	%	#	%	#	%	#	%
Driver	Belted	2,874	96.6%	3,454	93.3%	23	67.6%	6,351	94.6%
	Unbelted	100	3.4%	248	6.7%	11	32.4%	359	5.4%
Front Seat Passenger	Belted	565	96.4%	832	90.0%	4	57.1%	1,401	92.4%
	Unbelted	21	3.6%	92	10.0%	3	42.9%	116	7.6%
Back Seat Passenger	Belted	260	94.5%	120	87.6%	0	0.0%	380	92.2%
	Unbelted	15	5.5%	17	12.4%	0	0.0%	32	7.8%
Unknown Placement	Belted	9	100.0%	11	91.7%	0	0.0%	20	95.2%
	Unbelted	0	0.0%	1	8.3%	0	0.0%	1	4.8%
Total	Belted	3,708	96.5%	4,417	92.5%	27	65.9%	8,152	94.1%
	Unbelted	136	3.5%	358	7.5%	14	34.1%	508	5.9%

- A majority of the total occupants (94.1%) whose air bag deployed were wearing a seatbelt. However, only 65.9% of the persons killed, whose air bag deployed, were wearing a seatbelt.
- Airbags are a supplemental safety device and were designed to be used with a seatbelt. Therefore, airbags are most effective when used in conjunction with a seatbelt.

Occupant Characteristics (Including Driver)

Ejection and Seatbelt Use (Utah 2006)

Persons								
Seatbelt Use	Not Ejected		Partially Ejected		Fully Ejected		Total Persons	
	#	%	#	%	#	%	#	%
Belted	110,669	95.9%	43	55.1%	53	22.5%	110,765	95.7%
Unbelted	4,724	4.1%	35	44.9%	183	77.5%	4,942	4.3%
Total	115,393	100.0%	78	100.0%	236	100.0%	115,707	100.0%



- There is an inverse relationship between ejection from a motor vehicle and seatbelt use.
- The majority of crash occupants fully ejected from a motor vehicle (77.5%) were unbelted compared to only 4.1% of crash occupants not ejected from a motor vehicle.
- Unbelted occupants were 80 times more likely to be fully ejected from a motor vehicle compared to belted occupants.
- Ejection from the vehicle is one of the most injurious events that can happen to a person in a crash. Seatbelts are effective in preventing total ejections.

Ejection and Seatbelt Use of Persons Killed (Utah 2006)

Persons Killed								
Seatbelt Use	Not Ejected		Partially Ejected		Fully Ejected		Total Persons	
	#	%	#	%	#	%	#	%
Belted	90	89.1%	9	8.9%	2	2.0%	101	100.0%
Unbelted	43	49.4%	1	1.1%	43	49.4%	87	100.0%
Total	133	70.7%	10	5.3%	45	23.9%	188	100.0%

- Nearly half (49.4%) of unbelted occupants killed were fully ejected compared to only 2.0% of belted occupants killed.

Occupant Characteristics (Including Driver)

Seatbelt Use by Age of Crash Occupants (Utah 2006)

Persons									
Age	Seatbelt Use	Non-Injured		Injured		Killed		Total Persons	
		#	%	#	%	#	%	#	%
0-4	Belted	4,767	98.4%	530	95.0%	3	75.0%	5,300	98.1%
	Unbelted	76	1.6%	28	5.0%	1	25.0%	105	1.9%
5-9	Belted	3,408	97.1%	578	90.9%	2	100.0%	3,988	96.1%
	Unbelted	103	2.9%	58	9.1%	0	0.0%	161	3.9%
10-14	Belted	3,026	95.0%	587	87.5%	2	66.7%	3,615	93.7%
	Unbelted	158	5.0%	84	12.5%	1	33.3%	243	6.3%
15-19	Belted	16,819	95.8%	3,302	87.4%	14	46.7%	20,135	94.2%
	Unbelted	740	4.2%	475	12.6%	16	53.3%	1,231	5.8%
20-24	Belted	14,468	96.4%	2,998	89.9%	15	44.1%	17,481	95.2%
	Unbelted	534	3.6%	338	10.1%	19	55.9%	891	4.8%
25-29	Belted	11,022	96.6%	2,315	91.6%	7	43.8%	13,344	95.7%
	Unbelted	383	3.4%	213	8.4%	9	56.3%	605	4.3%
30-34	Belted	7,728	96.8%	1,587	92.6%	5	50.0%	9,320	96.0%
	Unbelted	256	3.2%	126	7.4%	5	50.0%	387	4.0%
35-39	Belted	6,389	96.5%	1,447	93.9%	6	42.9%	7,842	95.9%
	Unbelted	234	3.5%	94	6.1%	8	57.1%	336	4.1%
40-44	Belted	5,851	97.0%	1,284	91.9%	3	42.9%	7,138	96.0%
	Unbelted	178	3.0%	113	8.1%	4	57.1%	295	4.0%
45-49	Belted	5,346	96.8%	1,212	94.2%	12	70.6%	6,570	96.2%
	Unbelted	177	3.2%	75	5.8%	5	29.4%	257	3.8%
50-54	Belted	4,626	97.1%	1,032	95.6%	9	56.3%	5,667	96.7%
	Unbelted	138	2.9%	47	4.4%	7	43.8%	192	3.3%
55-59	Belted	3,363	97.3%	813	94.4%	5	83.3%	4,181	96.7%
	Unbelted	92	2.7%	48	5.6%	1	16.7%	141	3.3%
60-64	Belted	2,414	96.6%	631	94.6%	2	100.0%	3,047	96.2%
	Unbelted	84	3.4%	36	5.4%	0	0.0%	120	3.8%
65-69	Belted	1,707	96.5%	407	92.9%	5	55.6%	2,119	95.7%
	Unbelted	61	3.5%	31	7.1%	4	44.4%	96	4.3%
70-74	Belted	1,179	95.9%	324	94.5%	3	75.0%	1,506	95.6%
	Unbelted	50	4.1%	19	5.5%	1	25.0%	70	4.4%
75-79	Belted	951	95.7%	265	95.0%	2	100.0%	1,218	95.5%
	Unbelted	43	4.3%	14	5.0%	0	0.0%	57	4.5%
80-84	Belted	630	97.1%	203	97.6%	4	66.7%	837	97.0%
	Unbelted	19	2.9%	5	2.4%	2	33.3%	26	3.0%
85+	Belted	379	94.3%	142	95.9%	3	50.0%	524	94.2%
	Unbelted	23	5.7%	6	4.1%	3	50.0%	32	5.8%
Unknown	Belted	1,713	94.6%	336	94.4%	0	0.0%	2,049	94.5%
	Unbelted	97	5.4%	20	5.6%	2	100.0%	119	5.5%
Total	Belted	95,786	96.5%	19,993	91.6%	102	53.7%	115,881	95.6%
	Unbelted	3,446	3.5%	1,830	8.4%	88	46.3%	5,364	4.4%

- Overall, crash occupants aged 10-14 years (6.3%), 15-19 years (5.8%), and 85+ years (5.8%) had the highest percentages of being unbelted.
- For persons killed, crash occupants aged 15-44 years had the highest percentages of being unbelted.

Occupant Characteristics (Including Driver)

Seatbelt Use by Gender of Crash Occupants (Utah 2006)

Persons									
		Non-Injured		Injured		Killed		Total Persons	
Gender	Seatbelt Use	#	%	#	%	#	%	#	%
Female	Belted	41,273	96.9%	11,509	93.4%	41	58.6%	52,823	96.1%
	Unbelted	1,324	3.1%	811	6.6%	29	41.4%	2,164	3.9%
Male	Belted	54,269	96.3%	8,447	89.3%	61	51.7%	62,777	95.2%
	Unbelted	2,094	3.7%	1,014	10.7%	57	48.3%	3,165	4.8%
Unknown	Belted	244	89.7%	37	88.1%	0	0.0%	281	88.9%
	Unbelted	28	10.3%	5	11.9%	2	0.0%	35	11.1%
Total	Belted	95,786	96.5%	19,993	91.6%	102	53.7%	115,881	95.6%
	Unbelted	3,446	3.5%	1,830	8.4%	88	46.3%	5,364	4.4%

- Overall, female (96.1%) crash occupants seatbelt use was slightly higher than males (95.2%).
- For persons killed, female crash occupants had higher seatbelt use (58.6%) than males (51.7%).

Seatbelt Use by Occupant Placement (Utah 2006)

Persons									
		Non-Injured		Injured		Killed		Total Persons	
Occupant Placement	Seatbelt Use	#	%	#	%	#	%	#	%
Driver	Belted	67,039	97.0%	13,827	93.1%	68	57.6%	80,934	96.2%
	Unbelted	2,096	3.0%	1,029	6.9%	50	42.4%	3,175	3.8%
Front Seat Passenger	Belted	14,922	95.6%	4,007	89.9%	24	66.7%	18,953	94.3%
	Unbelted	692	4.4%	448	10.1%	12	33.3%	1,152	5.7%
Back Seat Passenger	Belted	13,367	95.9%	2,080	86.1%	9	30.0%	15,456	94.3%
	Unbelted	571	4.1%	336	13.9%	21	70.0%	928	5.7%
Unknown Placement	Belted	458	84.0%	79	82.3%	1	16.7%	538	83.2%
	Unbelted	87	16.0%	17	17.7%	5	83.3%	109	16.8%
Total	Belted	95,786	96.5%	19,993	91.6%	102	53.7%	115,881	95.6%
	Unbelted	3,446	3.5%	1,830	8.4%	88	46.3%	5,364	4.4%

- Among all occupants, drivers reported the highest seatbelt use (96.2%) compared to persons in other seating locations.
- For persons killed, back seat passengers were the least likely to be wearing a seatbelt (30.0%).

Seatbelt Use by Vehicle Type (Utah 2006)

Persons Killed						
Vehicle Type	Restraint Used		Restraint Not Used		Total	
	#	%	#	%	#	%
Van	9	60.0%	6	40.0%	15	100.0%
Passenger Car	57	58.2%	41	41.8%	98	100.0%
SUV	20	54.1%	17	45.9%	37	100.0%
Pickup Truck	15	40.5%	22	59.5%	37	100.0%
Semi/Large Truck	1	33.3%	2	66.7%	3	100.0%
Total	102	53.7%	88	46.3%	190	100.0%

- Occupants in semi/large trucks (33.3%) and pickup trucks (40.5%) were the least likely of those who died to be restrained.

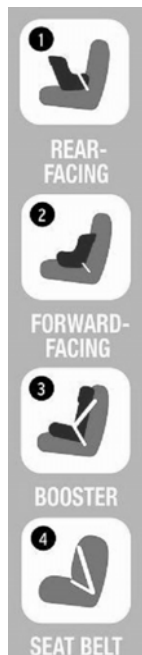
Children and Restraint Use

Restraint Use for Children Age 0 to 8 Years by Seating Location (Utah 2006)

Child Occupants									
Seating Location	Restraint Use	Ages 0-1		Ages 2-4		Ages 5-8		Total Children	
		#	%	#	%	#	%	#	%
Front Seat	Child Safety Seat	54	50.9%	74	40.2%	30	6.4%	158	20.8%
	Seatbelt Only	30	28.3%	92	50.0%	410	87.0%	532	69.9%
	Unrestrained	22	20.8%	18	9.8%	31	6.6%	71	9.3%
Second Row	Child Safety Seat	1,707	90.1%	1,937	75.0%	530	22.7%	4,174	61.2%
	Seatbelt Only	180	9.5%	610	23.6%	1,725	73.7%	2,515	36.9%
	Unrestrained	7	0.4%	35	1.4%	84	3.6%	126	1.8%
Third/Fourth Row	Child Safety Seat	136	82.9%	277	68.7%	123	23.3%	536	49.0%
	Seatbelt Only	23	14.0%	115	28.5%	394	74.8%	532	48.6%
	Unrestrained	5	3.0%	11	2.7%	10	1.9%	26	2.4%
Total	Child Safety Seat	1,897	87.7%	2,288	72.2%	683	20.5%	4,868	56.1%
	Seatbelt Only	233	10.8%	817	25.8%	2,529	75.8%	3,579	41.3%
	Unrestrained	34	1.6%	64	2.0%	125	3.7%	223	2.6%

- The older the child the less likely they were using a child safety seat.
- The majority of 0-1-year-olds (87.7%) were in a child safety seat at the time of the crash, compared to 72.2% of 2-4 year-olds and 20.5% of 5-8 year-olds. The drastic decrease in child safety seat use for children aged 5-8 years is concerning. This indicates that children are moving to adult-sized seatbelts too early.
- 0-1-year-olds were 28 times more likely to be in a child safety seat at the time of the crash than 5-8 year-olds.
- Children riding in the front seat were the least likely to be using a child safety seat and the most likely to be unrestrained.
- Children riding in a back seat were 5.6 times more likely to be using a child safety seat than children riding in the front seat.

Growing Up Safe : It's a four-step process



1. **Rear-facing seats:** For the best possible protection keep infants in the back seat, in rear-facing child safety seats, as long as possible up to the height or weight limit of the particular seat. At a minimum, keep infants rear-facing until age 1 and at least 20 pounds.
2. **Forward-facing seats:** When children outgrow their rear-facing seats they should ride in forward-facing child safety seats, in the back seat, until they reach the upper weight or height limit of the particular seat (usually around age 4 and 40 pounds).
3. **Booster seats:** Once children outgrow their forward-facing seats, they should ride in booster seats, in the back seat, until the vehicle seatbelts fit properly. Seatbelts fit properly when the lap belt lays across the upper thighs and the shoulder belt fits across the chest (usually at age 8 or when they are 4'9" tall).
4. **Seatbelts:** When children outgrow their booster seats, they can use the adult seatbelt in the back seat, if it fits properly.